

Abstract

The instant invention is a hollow fiber membrane contactor. The hollow fiber membrane contactor includes a cartridge, a shell, a first end cap, and a second end cap. The shell, which is adapted for enclosing the cartridge, has two ends and an opening. The cartridge further includes a perforated center tube, a hollow fiber fabric, a first tube sheet, a second tube sheet, and a plug. The perforated center tube has a first end and a second end, and the hollow fiber fabric surrounds the center tube. The hollow fiber fabric includes hollow fiber membranes, and each hollow fiber membrane has a lumen. A first tube sheet and a second tube sheet affixes said fabric to said center tube at each end of the center tube, and the plug is located at the first tube sheet. Hollow fiber lumens are open at the first tube sheet and hollow fiber lumens are closed at the second tube sheet. The first end cap and the first tube sheet define a first headspace therebetween. The first end cap has an opening therethrough, which is in communication with hollow fiber lumens via said first headspace. The second end cap has an opening, and it is in communication with the center tube.